

IN THE UNITED STATES PATENT TRADEMARK OFFICE

Applicant	WESTON, LANCE
Application Number	10/750,385
Confirmation Number	8983
Filing Date	12/31/2003
Title	INPUT TRANSIENT PROTECTION FOR ELECTRONIC DEVICES
Docket Number	H0006069-0555
Examiner	DINH, TUAN T
Art Unit	2841

APPEAL BRIEF ON BEHALF OF LANCE WESTON

This is an Appeal from the Final Rejection of Claims 62-70 and 76-84 by the Office Action of 11/12/2009.

REAL PARTY IN INTEREST

The real parties in interest are the inventors Lance Weston, Edward L. Fontana and Larry A. Sternstein and Honeywell International Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF THE CLAIMS

- A) Claims 1-12 and 27-89 are pending in the application.
- B) Claims 1-12 and 27-61 are withdrawn.
- C) Claims 71-75 and 85-89 are allowed
- D) Claims 62-70, 76-84 are rejected.
- E) Claims 62-70, 76-84 are on appeal.
- F) Claims 13-26 are cancelled.

IV. STATUS OF AMENDMENTS

There are no after final amendments. An after final response, that did not make any amendment was not entered.

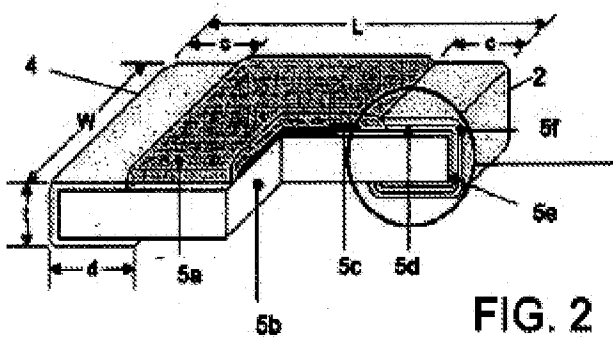
V. SUMMARY OF CLAIMED SUBJECT MATTER

The pending claims are for a circuit protection system and relates to electronic circuit boards and particularly passive means for protecting against voltage transient in electronic components. Alarm systems and many other electronic devices are attached through wires to external devices. These wires are subject to voltage transients that can lead to failure of individual components on the circuit board. The problem is particularly acute with respect to resistors at an input for a given electronic circuit. Wires that are connected to the input for the circuit, referred to as "external wires" have voltage transients in them. The usual failure mode of such resistors is a changing value of the resistor as the transient arcs from the body of the resistor, burning off the film deposited on the resistor.

A circuit board assembly which includes an electrically insulating layer, a conductive printed wiring layer formed on the surface of the electrically insulating layer and includes a plurality of conductive paths, a conductive trace on the electrically insulating layer and apparatus for dissipating a transient in addition to a surface mount resistor fixed in relation to the trace. In some forms of the invention the surface mount resistor has opposed generally planar lips. The trace may also be generally planar. In some cases the lower 10 lips and the trace are generally parallel. The generally planar lips of the surface mount resistor may be closer to the trace than the thickness of the surface mount resistor. A single geometric plane may extend through substantially all of the lips and all of the trace. In some cases the lower surface of the lips and the lower surface of the trace are substantially coplanar. In some cases the upper surface of the lower lip

and the upper surface of the trace are substantially coplanar. In other cases the lower surface of the lower lip and the lower surface of the trace are substantially coplanar and in addition the upper surface of the lip and the upper surface of the trace are substantially coplanar.

The claims will be better understood by reference to a portion of Fig. 2 that illustrates a typical surface mount resistor. As described in the specification on page 7, the typical surface mount resistor has industry standard U-shaped end caps 2, 4. It will be understood that the end cap 4 is identical to end cap 2. For the purpose of illustrating the internal structure the end cap 2 has been cut away solely for the purpose of illustration.



The independent claims which are involved in this appeal are claims 62, 66, 76 and 80 are reproduced below followed immediately by Fig. 1 (marked up with bold font legends to emphasize 4 discrete edges as well as other features of the structure). Reference numerals and comments are added to these claims in bold font parenthetical statements to improve clarity.

I

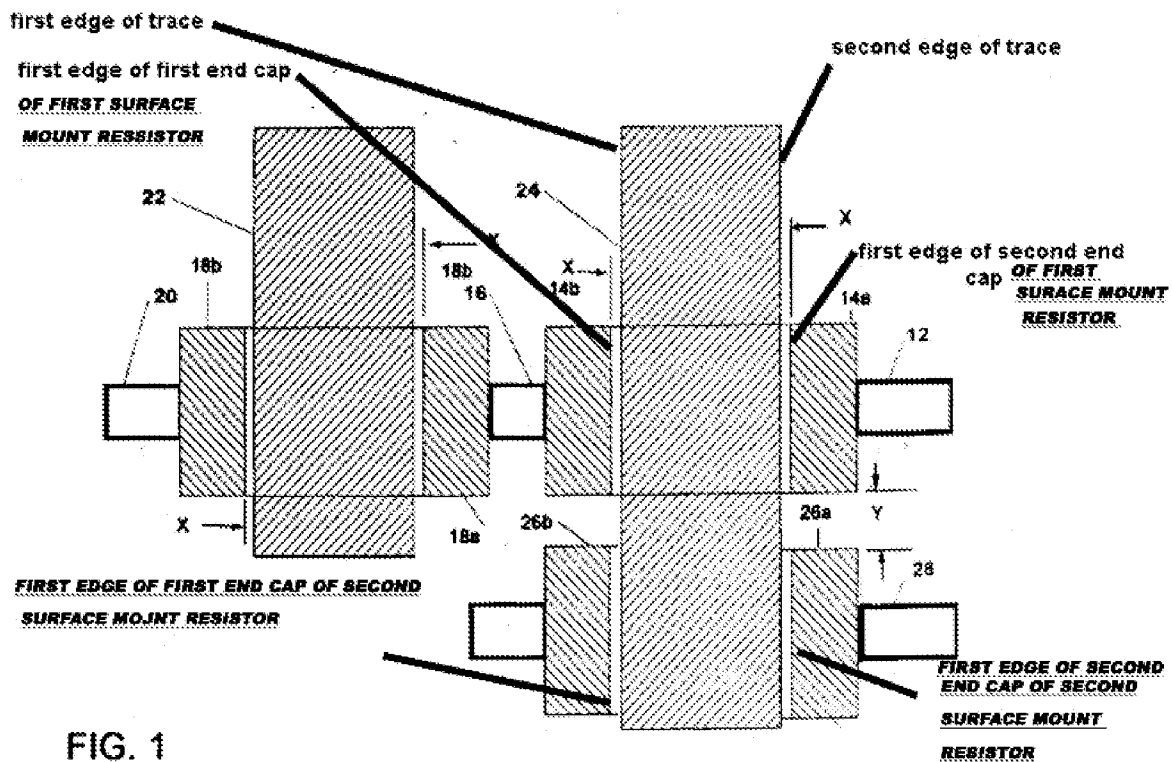


FIG. 1

Claim 62. A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board (50 in Fig. 3; specification p. 7 line 16)

a surface mount component (14 in Fig. 2 specification p. 8, line1) mounted on said printed circuit board, said surface component having first and second end caps, (2, 4 in Fig 2 specification p. 7 line 22; 14a, 14b in Fig. 1 specification p. 8, line7) said first and second end caps each having a first edge; (expressly marked as 'first edge of first end cap' and (first edge of second end cap' specification p. 10, line 26, p. 5, lines16, 19; p. 9, line 24) a conductive trace (24 specification p. 8, line 8; p. 5. lines 33-34) on said printed circuit board having first and second opposed edges (expressly marked as 'first edge of trace' and ;'second edge of trace') extending intermediate said first and second end caps, (2, 4 in Fig 2 specification p. 7 line 22, 14a, 14b in Fig. 1 specification p. 8, line7; p. 5. lines

33-34) said first and second opposed edges (**expressly marked as ‘first edge of first trace’ and ;’second edge of trace’**) being coplanar (**Fig. 1 and specification p. 9, lines 17-19; p.6, lines 20-26**) and thereby defining a plane, said plane intersecting said first edge of said first end cap (**expressly marked as ‘first edge of first end cap’ specification p. 10, line 26, p. 5, lines16, 19; p. 9, line 24**)) and intersecting said first edge of said second end cap, (**expressly marked as;’first edge of second end cap’**) said first edge of said trace (**expressly marked as ‘first edge of trace’**) being disposed in parallel spaced relation to said first edge of said first end cap (**expressly marked as ‘first edge of first end cap’**) and said second edge of said trace (**expressly marked as ’second edge of trace’**) being disposed in parallel spaced relation to said first edge of said second end cap. (**expressly marked as;’first edge of second end cap’**)

Claim 66. A circuit protection system (**60 Specification P. 7, Line 16**) for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board; (**50 in Fig. 3; specification p. 7 line 16**)

a first surface mount component (**14 in Fig. 2 specification p. 8, line1**) mounted on said printed circuit board, said surface component having first and second end caps, (**2, 4 in Fig 2 specification p. 7 line 22; 14a, 14b in Fig. 1 specification p. 8, line7**)said first and second end caps each having a first edge; **expressly marked as ‘first edge of first end cap’ and (first edge of second end cap’ specification p. 10, line 26, p. 5, lines16, 19; p. 9, line 24)**

a second surface mount component (**26 in Fig. 2 specification p. 8, line1**) mounted on said printed circuit board, (**50 in Fig. 3; specification p. 7 line 16**) said surface component having first and second end caps, said first and second end caps (**2, 4 in Fig 2 specification p. 7 line 22; 14a, 14b in Fig. 1 specification p. 8, line7**) each having a first edge;(the first edge of the first and second end caps of the second

component correspond to the positions of the first edge of the first and second end caps of the first component which have been expressly marked herein)

a conductive trace (**24 specification p. 8, line 8; p. 5. lines 33-34**) on said printed circuit board (**50 in Fig. 3; specification p. 7 line 16**) having first and second opposed edges (**expressly marked as ‘first edge of trace’ and ;”second edge of trace”**) extending intermediate said first and second end caps (**2, 4 in Fig 2 specification p. 7 line 22; 14a, 14b in Fig. 1 specification p. 8, line7**) of said first surface mounted component, (**14 in Fig. 2 specification p. 8, line1**) said first and second opposed edges being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap (**expressly marked as ‘first edge of first end cap’ specification p. 10, line 26, p. 5, lines16, 19; p. 9, line 24**) of said first surface mounted component and intersecting said first edge of said second end cap (**expressly marked as;”first edge of second end cap”**) of said first surface mounted component, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end cap of said first surface mounted component and said second edge of said trace is disposed in parallel spaced relation to said first edge of said second end cap of said first surface mounted component; and

said conductive trace (**24 specification p. 8, line 8; p. 5. lines 33-34**) on said printed circuit board (**50 in Fig. 3; specification p. 7 line 16**) having said first and second opposed edges (**expressly marked as ‘first edge of trace’ and ;”second edge of trace”**) extending intermediate said first and second end caps of said second surface mounted component, (**26 in Fig. 2 specification p. 8, line1**) said plane intersecting said first edge of said first end cap (**2 in Fig 2 specification p. 7 line 22, 14a, 14b in Fig. 1 specification p. 8, line7; p. 5. lines 33-34**) of said second surface mounted component and intersecting said first edge of said second end cap (**4 in Fig 2 specification p. 7 line 22, 14a, 14b in Fig. 1 specification p. 8, line7; p. 5. lines 33-34**) of said second surface mounted component, said first edge

of said trace being disposed in parallel spaced relation to said first edge of said first end cap of said second surface mounted component and said second edge of said trace being disposed in parallel spaced relation to said first edge of said second end cap of said second surface mounted component. **(26 in Fig. 2 specification p. 8, line1)**

Claim 76. A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board **(50 in Fig. 3; specification p. 7 line 16);**

a surface mount resistor mounted **(2, 4 in Fig 2 specification p. 7 line 22; 14a, 14b in Fig. 1 specification p. 8, line7)** on said printed circuit board, said surface resistor having first and second end caps, **(2, 4 in Fig 2, specification p. 7 line 22; 14a; 14a, 14b in Fig. 1 specification p. 8, line7)** said first and second end caps **(2, 4 in Fig 2, specification p. 7 line 22; 14a; 14a, 14b in Fig. 1 specification p. 8, line7)** each having a first edge **(see marked Fig. 1 above captions identifying each first edge);**

a conductive trace **(24 specification p. 8, line 8; p. 5. lines 33-34)** on said printed circuit board having first and second opposed edges **(expressly marked as ‘first edge of trace’ and ;”second edge of trace” in marked Fig. 1 above and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where the drawing shows a band with edges)** extending intermediate said first and second end caps, **(2, 4 in Fig 2, 14a, 14b in Fig. 1 in drawing and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where the drawing shows a band with edges)** said first and second opposed edges **(expressly marked as ‘first edge of trace’ and ;”second edge of trace” in marked Fig. 1 and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where**

the drawing shows a band with edges) being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap **(expressly marked as ‘first edge of first end cap’ in marked Fig. 1 and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where the drawing shows a band with edges)** and intersecting said first edge of said second end cap, . **(expressly marked as;”first edge of second end cap” in in marked Fig. 1 and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where the drawing shows a band with edges)** said first edge of said trace **(expressly marked as ‘first edge of first trace’ in marked Fig. 1 and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where the drawing shows a band with edges)** being disposed in parallel spaced relation to said first edge of said first end cap **(expressly marked as ‘first edge of first end cap’ in in marked Fig. 1 and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where the drawing shows a band with edges)** and said second edge of said trace **(expressly marked as ”second edge of trace” in in marked Fig. 1 and inherent in specification p. 10, lines 25-28 reference to bands that the bands have edges particularly where the drawing shows a band with edges)** being disposed in parallel spaced relation to said first edge of said second end cap. . **(expressly marked as;”first edge of second end cap” in marked Fig. 1 and inherent in specification p. 10, lines 25-28 describing an embodiment that has a single band that extends close to opposed edges of respective end caps.)**

Claim 80. (Previously presented) A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board**(50 in Fig. 3; specification p. 7 line 16);**

a first surface mount resistor (**14 specification p. 8 line 1; having end caps 14a, 14b Fig. 1 specification p. 8, line7**) mounted on said printed circuit board **50**, said surface resistor having first and second end caps(**2, 4 in Fig 2, specification p. 7 line 22; 14a; 14a, 14b in Fig. 1 specification p. 8, line7**) , said first and second end caps each having a first edge (**see marked Fig. 1**);

a second surface mount resistor (**26 specification p. 8 line 1, Fig. 1 shows the end caps thereof 26a, 26b, specification p. 8, line 11; description of first surface mount resistor applies *mutatis mutandis* to second surface mount resistor**); mounted on said printed circuit board **50**, said surface resistor having first and second end caps (**Fig. 1 shows the end caps thereof 26a, 26b, specification p. 8, line 11**), said first and second end caps each having a first edge (**expressly marked as ‘first edge of first end cap’ and (first edge of second end cap’ specification p. 10, line 26, p. 5, lines16, 19; p. 9, line 24)**);

a conductive trace (**24 specification p. 8, line 8; p. 5. lines 33-34**) on said printed circuit board **50** having first and second opposed edges (**inherent that a trace has edges an expressly marked as ‘first edge of trace’ and ”second edge of trace” in marked drawing**) extending intermediate said first and second end caps (**14a, 14b Fig. 1 specification p. 8, line7**) of said first surface mounted resistor (**14 specification p. 8 line 1; having end caps 14a, 14b Fig. 1 specification p. 8, line7**), said first and second opposed edges (**inherent that a trace has edges an expressly marked as ‘first edge of trace’ and ;”second edge of trace” in marked drawing**) being coplanar (**Fig. 1 and specification p. 9, lines 17-19; p.6, lines 20-26**) and thereby defining a plane, said plane intersecting said first edge of said first end cap of said first surface mounted resistor (**expressly marked as ‘first edge of first end cap’ specification p. 10, line 26, p. 5, lines16, 19; p. 9, line 24**)) and intersecting said first edge of said second end cap (**expressly marked as;”first edge of second end cap”**) of said first surface mounted resistor, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end

cap of said first surface mounted resistor (**expressly marked as ‘first edge of first end cap’**) and said second edge of said trace is disposed in parallel spaced relation to said first edge of said second end cap of said first surface mounted resistor (**expressly marked as; ‘first edge of second end cap’**); and

said conductive trace (**24 specification p. 8, line 8; p. 5. lines 33-34**) on said printed circuit board **50** having said first and second opposed edges (**inherent that a trace has edges an expressly marked as ‘first edge of trace’ and ‘second edge of trace’ in marked drawing**) extending intermediate said first and second end caps (**26a 26b specification p. 8, line 11 Figure 1**) of said second surface mounted resistor, said plane intersecting said first edge (**marked Fig. 1**) of said first end cap of said second surface mounted resistor **26** and intersecting said first edge of said second end cap (**see marked Fig. 1**) of said second surface mounted resistor (**see marked Fig. 1**), said first edge (**see marked Fig. 1**) of said trace (**see marked Fig. 1**) being disposed in parallel spaced relation to said first edge (**see marked Fig. 1**) of said first end cap (**26a, see marked Fig. 1**) of said second surface mounted resistor **26** and said second edge of said trace **24** being disposed in parallel spaced relation to said first edge (**see marked Fig. 1**) of said second end cap (**26b, see marked Fig. 1**) of said second surface mounted resistor (**26, see marked Fig. 1**).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether or not the patentability of Claims 62-70 and 76-84 must be determined by treating the language of the claim preamble as an operative claim limitation.

B. Whether or not Claims 62-70, 76-84 are patentable under 35 U.S.C. §103(a) as being unpatentable over Laschinski (U.S. Patent 6,467,163) in view of Tanabe et al. (U.S. Patent 4,883,920).

VII. ARGUMENT

A. Whether or not the patentability of Claims 62-70 and 76-84 must be determined by treating the language of the claim preamble as an operative claim limitation.

The linch pin of the Examiner's argument is the assertion, made without a statement of any legal support, is:

"4. Applicant's arguments filed 07/29/09 have been fully considered but they are not persuasive.

Applicant argues:

A. Neither reference relied on relates to the problem of transient protection or dissipating transients or even mentions the word "transients" or any synonym thereof.

Neither reference relied on relates to any solution for dissipating transients.

Response to (A), Examiner disagrees because the term "for transient protection or dissipating transients" is preamble language and "for plus function" for the circuit protection system. Further, the preamble language or "for plus function" must be read on the context of the entire claim or in a body of the claim. So the term "for transient protection or dissipating transients" does not support in the body of the claimed invention."

The preamble of claim 62 is:

"A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises: "

The Manual of Patent Examining Procedure Eighth edition Rev. 6 states

"This Manual is published to provide U.S. Patent and Trademark Office (USPTO) patent examiners, applicants, attorneys, agents, and representatives of applicants with a reference work on the practices and procedures relative to the prosecution of patent applications before the USPTO. It contains instructions to examiners, as well as other material in the nature of information and interpretation, and outlines the current procedures which the examiners are required or authorized to follow in appropriate cases in the normal examination of a patent application."

The relevant section of the MPEP is:

“MPEP 2111.02 Effect of Preamble [R-3]

The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. *Catalina Mktg. Int'l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002). See *id.* at 808-10, 62 USPQ2d at 1784-86 for a discussion of guideposts that have emerged from various decisions exploring the preamble's effect on claim scope, as well as a hypothetical example illustrating these principles.

"[A] claim preamble has the import that the claim as a whole suggests for it." *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). **"If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim."** *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). See also *Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003)(In considering the effect of the preamble in a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to "a human in need thereof," the court held that the claims' recitation of a patient or a human "in need" gives life and meaning to the preamble's statement of purpose.). ***Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) (A preamble reciting "An abrasive article" was deemed essential to point out the invention defined by claims to an article comprising abrasive grains and a hardened binder and the process of making it. The court stated "it is only by that phrase that it can be known that the subject matter defined by the claims is comprised as an abrasive article. Every union of substances capable *inter alia* of use as abrasive grains and a binder is not an 'abrasive article.'" Therefore, the preamble served to further define the structure of the article produced.).** “ (emphasis added)

Thus, just as the *Kropa v. Robie* case held that the use of “an abrasive article” is not inherent in abrasive substances and therefore the preamble is limiting. With still greater force the preamble in this case satisfies the ***Pitney Bowes, Inc. v. Hewlett-Packard Co. test because*** “... the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is

'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." More specifically, the preamble of the claim not only give life and meaning to the claim, it enormously limits the claim with the words "**without the use of transorbs or metal oxide varistors**" as well as the words "**A circuit protection system for dissipating transients...**"..

MPEP 211.02 continues with respective sections:

I. < PREAMBLE STATEMENTS LIMITING STRUCTURE and

II. < PREAMBLE STATEMENTS RECITING PURPOSE OR INTENDED USE
The initial statement as well as each of these section each fully support applicant's position. The following analyses the respective sections.

I. < PREAMBLE STATEMENTS LIMITING STRUCTURE provides

"Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of whether preamble recitations are structural limitations can be resolved only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim."); *Pac-Tec Inc. v. Amerace Corp.*, 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990) (determining that preamble language that constitutes a structural limitation is actually part of the claimed invention). See also *In re Stencel*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987). (The claim at issue was directed to a driver for setting a joint of a threaded collar*>;< however>,< the body of the claim did not directly include the structure of the collar as part of the claimed article. The examiner did not consider the preamble, which did set forth the structure of the collar, as limiting the claim. The court found that the collar structure could not be ignored. While the claim was not directly

limited to the collar, the collar structure recited in the preamble did limit the structure of the driver. "[T]he framework - the teachings of the prior art - against which patentability is measured is not all drivers broadly, but drivers suitable for use in combination with this collar, for the claims are so limited." Id. at 1073, 828 F.2d at 754.). " (emphasis added)

The Examiner argues that

"Response to (A), Examiner disagrees because the term 'for transient protection or dissipating transients' is preamble language and 'for plus function' for the circuit protection system. Further, the preamble language or "for plus function" must be read on the context of the entire claim or in a body of the claim. So the term "for transient protection or dissipating transients" does not support in the body of the claimed invention (sic).

This argument is exquisitely repudiated by the entire MPEP 211.02, Section I including *In re Stencil* relied on by the USPTO MPEP in which the preamble **was directed to a driver for setting a joint of a threaded collar and the body of the claim did not directly include the structure of the collar as part of the claimed article.** Thus, the decision repudiates any requirement for "support in the claim". The meaning of "for plus function" is unknown. Perhaps, the Examiner intended to use the term "means plus function". The undersigned attorney is familiar with that term. (The undersigned attorney is the author of *Functional Claims and the 1952 Patent Act*, Journal of the Patent Office Society, July, 1966) To the extent that the preamble might be construed by the examiner as a means plus function clause, that position supports the position of the applicant. More specifically if the preamble is a means plus function clause it must be construed by 35 USC 112, 6th paragraph – "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

Construing this preamble as a means plus function requires that this preamble be construed as an element and also repudiates the Examiner's position that the preamble has no meaning or significance.

II. < PREAMBLE STATEMENTS RECITING PURPOSE OR INTENDED USE

Similarly, the recognition and validity of the claim limitations "for dissipating transients" and "without the use of transorbs or metal oxide varistors" is supported by this section of MPEP 211.02 with:

"Jansen v. Rexall Sundown, Inc., 342 F.3d 1329, 1333-34, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003) (In a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to "a human in need thereof," the court held that the preamble is not merely a statement of effect that may or may not be desired or appreciated, but rather is a statement of the intentional purpose for which the method must be performed. Thus the claim is properly interpreted to mean that the vitamin preparation must be administered to a human with a recognized need to treat or prevent pernicious anemia.)"

Thus, just as Jansen stands for the proposition that the preamble limits the invention to a method for treating anemia, the present invention is limited to apparatus for dissipation of transients without the use of transorbs or metal oxide varistors in a circuit board.

In summary, the appellant's position is supported by the introductory part of MPEP 211.02 I. as well as each of the respective sections captioned:

- I. < PREAMBLE STATEMENTS LIMITING STRUCTURE and
- II. < PREAMBLE STATEMENTS RECITING PURPOSE OR INTENDED USE.

THE CONTEXT OF THE APPEAL

Federal Circuit decisions are mandatory authority for the USPTO and have been since 1983. Chisum on patents categorizes the decisions of the Federal Circuit ruling on the construction patent claim matter with respect to matters arising from proceedings in the USPTO. That section, pages 8-457 to 8-459, together with the title page and relevant section of the table of contents are included as Appendix-Chisum hereto.

The following is an analysis the title, citation, and relevant conclusion of all Federal Circuit cases referred to in that section:

Griffin v. Bertina	285 F.3d 1029, 1033 62 USPQ2d 1431 (Fed. Cir. 2002)	language in a preamble was a limitation on a claim
<i>Rapoport v. Dement</i>	254 F3d 1053, 59 USPQ2d 1215 (Fed. Cir. 2001)	The reference to "treatment of sleep apneas" appeared in the count's preamble, but it must be construed as a limitation.
Rowe v. Dror,	112F.3d 473, 478, 42 USPQ2d 1550,1553 (Fed.Cir. 1997)	This appeal depends on whether the claim phrase "balloon <i>angioplasty</i> catheter," which appears only in the claim preamble, is or is not an affirmative limitation of the claim. The Board interpreted the claim as "drawn to the subject matter of a balloon catheter of general utility" and gave no meaning to the word "angioplasty." On this basis, the Board concluded that the Lemelson patent, which admittedly discloses only a general purpose catheter, anticipated Rowe's claims. Rowe urges that the Board erred in failing to limit the claims at issue to angioplasty catheters.

		<p>Inspection of the entire record in this case reveals that "angioplasty" is, in fact, a structural limitation of Rowe's claims. To begin with, the form of the claim itself, the so-called "Jepson" form, suggests the structural importance of the recitations found in the preamble. The Jepson form allows a patentee to use the preamble to recite "elements or steps of the claimed invention which are conventional or known." 37 C.F.R. § 1.75(e) (1996). When this form is employed, the claim preamble defines not only the context of the claimed invention, but also its scope. See <u>Pentec, Inc. v. Graphic Controls, Corp.</u>, 776 F.2d 309, 315, 227 USPQ 766, 770 (Fed.Cir.1985) ("Although a preamble is impliedly admitted to be prior art when a Jepson claim is used, ... the claimed invention consists of the preamble in combination with the improvement.") (citations omitted); United States Patent and Trademark Office, <i>Manual of Patent Examining Procedure</i> § 608.01(m) (6th ed. rev.Sept.1995) ("[The Jepson form of claim] is to be considered a combination claim. The preamble of this form of claim is considered to positively and clearly include all the elements or steps recited therein as a part of the claimed combination."). Thus,</p>
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		the form of the claim itself indicates Rowe's intention to use the preamble to define, in part, the structural elements of his claimed invention. The device for which the patent claims "an improvement" is a "balloon angioplasty catheter."
<i>In re Paulsen</i>	30 F.3d 1475, 1479, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994)	the term "computer" in the patent claim's preamble constitutes a limitation on the claims' scope
<i>Vaupel Textilmaschinen KG v. Meccanica Euro Italia SPA</i>	944 F.2d 870, 880, 20 USPQ2d 1045, 1053 (Fed. Cir. 1991)	[not an appeal from USPTO decision]
<i>Gerber Garment Tech, Inc. v. Lectra Sys., Inc.</i>	916 F.2d 683, 689, 16 USPQ2d 1436, 1441 (Fed. Cir. 1999)	[not an appeal from USPTO decision although it did consider claim consonance with restriction requirement]
<i>Corning Glass Works v. Sumitomo Electric U.S.A., Inc.</i>	868 F.2d 1251	[not an appeal from USPTO decision]
<i>In re Stencil</i>	828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987)	The preamble, portion of the claim, stated the purpose of the driver (to set the joint by deforming certain lobes on the collar). The, Federal Circuit held that the preamble constitutes a limitation defining the driver and could be relied on by the applicant to distinguish the teachings of prior art references.
<i>Smith Corona Corp. v. Pelikan, Inc.</i>	784 F. Supp. 452, 461, 463 (M.D. Tenl. 1992), <i>affd</i> , 1 F.3d 1252 (Fed. Cir. 1993) (unpublished)	<i>Stencil</i> means that "[p]atentability can be predicated upon how a claimed item mates with another item without claiming

		the combination of the two 'items";' "under <i>Stencel</i> , An applicant may define and limit an invention in terms of that invention's intended environment without claiming the environment as part of a combination with the invention."
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The collective holdings of all the decisions from USPTO decisions cited by Chisum pertaining to the precise context of the present matter, appeal from USPTO proceedings, establish the enormous overwhelming position of the Federal Circuit establishes and that the the Examiner's has a burden that is enormously difficult if not impossible to alter, vary, distinguish or contradict the mandatory authority of the Federal Circuit. No decisions (over the entire 27 year life of the court) of the Federal Circuit appear to even slightly support the decision of the Examiner.

The Stencil and Smith Corona decisions by the Federal Circuit are in direct, explicit contradiction of the Examiner's position.

Furthermore, each rejected independent claim includes the phrase “ without the use of transorbs or metal oxide varistors”. Thus, the Examiner's position that the preamble of the rejected claims are mere statements of intended use is inherently an assertion that a negative limitation in the preamble is not an operative limitation on the claim. This position is also equisitely and decisively rebutted by Re Gaubert, 524 F2d 1222, 187 USPQ 664 (1975, CCPA). Because this issue is such well settled law later decisions are difficult to find. Attached hereto is Appendix-Walker with images of pages from Lipscomb's Walker on Patents, Third Edition 2007. These pages confirm the existence of robust established case law irrefutably supporting the conclusion that the negative limitation in the preamble of the present independent claims is an operative limitation. The discussion is based in part on Re Gaubert 524 F2d 1222,

187 USPQ 664 (1975, CCPA). MPEP 2173.05(h) Alternative Limitations - 2100 Patentability cites that decision with approval. It follows that because the part of the preamble (“ without the use of transorbs or metal oxide varistors”) is an operative limitation, then the Examiner has to inherently argue that just part of the preamble (“A circuit protection system for dissipating transients”) is not an operative claim limitation. Thus, the Examiner’s position is even more tenuous.

B. Whether or not Claims 62-70, 76-84 are patentable under 35 U.S.C. §103(a) as being unpatentable over Laschinski (U.S. Patent 6,467,163) in view of Tanabe et al. (U.S. Patent 4,883,920).

The rejection is:

4. Claims 62-70, 76-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laschinski (U.S. Patent 6,467,163) in view of Tanabe et al. (U.S. Patent 4,883,920).

As to claims 62, 76, Laschinski discloses a universal component mounting structure for surface mountable electronic devices as shown in figures 1-2 comprising:

a printed circuit board (2, column 3, lines 60-61) having a SMT component (16) mounted on, the component (30; 40) having first and second terminals (column 5, lines 23-24), and each terminals having a first edge;

a conductive trace (10) formed on the PCB (2) having first and second opposed edges extending intermediate said first and second terminals (see figure 2), the edges of the trace (10) being defined a plane, see figure 2 and intersecting the first edge of the first and second terminals, the edge of the trace (10) disposed in parallel spaced relative to the edge of the first and second terminals respectively.

Laschinski does not specifically disclose the SMT component (16) having end caps. Tanabe et al. teaches a SMT component (2) having end caps (4) mounted on a substrate (1). It would have been obvious to one having an ordinary skill in the art at the time the invention was made to have the SMT component having end caps as taught by Tanabe et al. employed the SMT component of Laschinski in order to easy install components mounted on the PCB.

As to claims 66, 80, Laschinski discloses a universal component mounting structure for surface mountable electronic devices as shown in figures 1-2 comprising:

a printed circuit board (2, column 3, lines 60-61) having a first SMT component (16) mounted on, the component (30; 40) having first and second terminals (column 5, lines 23-24), and each terminals having a first edge; and a second SMT component (14) having end caps (see figure 2), and a conductive trace (10) formed on the PCB (2) having first and second opposed edges extending intermediate said first and second terminals (see figure 2), the edges of the trace (10) being defined a plane, see figure 2 and intersecting the first edge of the first and second terminals, the edge of the trace (10) disposed in parallel spaced relative to the edge of the first and second terminals respectively.

Laschinski does not specifically disclose the SMT component (16) having end caps. Tanabe et al. teaches a SMT component (2) having end caps (4) mounted on a substrate (1). It would have been obvious to one having an ordinary skill in the art at the time the invention was made to have the SMT component having end caps as taught by Tanabe et al. employed the SMT component of Laschinski in order to easy install components mounted on the PCB." (Emphasis added)

The bold font words above are materially incorrect with respect to the word "intermediate". The structure provides a printed circuit board that include planar conductive traces positioned for contact with the planar faces of the terminals of the surface mounted component. The lower face of the surface mounted component (that includes the lower face of the respective terminals) are thus in a different plane than the plane defined by the conductive traces. The respective planes are not even in face to face abutting relationship. They are spaced apart by the thickness of the solder intermediate the terminals and the plane of the conductive traces. There is no plane defined by the edges of end caps as specified in the claims, much less a plane that extends through the land 10.

In addition to the above noted imprecision, the following issues relating to the rejection are also noted:

1. Neither reference relied on relates to the problem of transient protection or dissipating transients or even mentions the word "transients" or any synonym thereof.
2. Neither reference relied on relates to any solution for dissipating transients.

3. Laschinski teaches that land 10 is only for attachment of device terminals.

4. Laschinski teaches that the sizing and location of lands is based solely on the dimensions of the family of surface mounted devices to which the surface mounted component is to be attached and insulating gap requirements. See the paragraph bridging columns 2 and 3: "For example, a few industry standard sizes for surface mount resistors and capacitors are commonly known as 805, 1206, and 1210, the sizes being 0.080x0.050 in., and 0.120x0.060 in., and 0.120x0.100 in. respectively. The terminations or connection points on these examples are on the ends of the longer axis. For a universal mounting 5 pattern to accommodate placement of anyone of these example devices, an insulating gap of 0.070 in. or less between the two conductive lands and the combined widths of the lands and the insulating gap are at least 0.130 in. or more is required. Multiple variations of circuit land and gap 10 patterns based on the above mentioned concept can then be combined on a common printed circuit structure to provide a prototyping breadboard if so desired. Three terminal devices can also be accommodated by designing land patterns comprised of two or more parallel and one or more 15 perpendicular conductive circuit lands with the insulating gaps between the lands."

5. Laschinski teaches only a prototyping board only for mounting surface mounted components. See Figure 6 illustrating in-line connectors for making connections to the respective surface mount components on the prototyping board.

6. Laschinski does not teach a land that is intermediate the edges of respective end caps of the same surface mounted component.

7. The placement of all lands, including land 10, in Laschinski is determined based on the spacing required by respective families of surface mounted components. There is no suggestion that the spacing should be governed by the need for

dissipating transients or even of the dimensions intermediate respective lands on the board.

8. Laschinski in addition to not describing surface mount components that include end caps, clearly does not describe or even mention the dimensions X and t dimensions as defined in the present specification and claims of the present application much less identify the importance of these dimensions in any embodiment in the reference.

9. Laschinski is so totally unconcerned about transients that the specification of that reference refers almost as an afterthought to the connection of power to the board. See column 7, final paragraph:

“As shown in FIG. 3, interconnection of other circuits to the universal mounting structure for surface mountable electronic devices in any of its possible configuration within the context of the present invention described above can take a variety of forms. The wires 70, leads, terminal, or other electrically conducting objects of other circuits 72 that are to be connected can be soldered directly to the circuit lands, or could be attached by bonding to the circuit lands with conductive adhesives or by the use of welding. Any means that provide an electrical connection that meets the requirements of the circuit designer would be appropriate. Another method of interconnection would be the use of a socket or edge card connector, in which case the present invention could be modified so as to have one or more edges provided with a circuit pattern that can interface with said socket or connector.”

10. Even if the Examiner's conjuncture about it being obvious to combine Laschinski and Tanabe were correct, the combination would still not suggest anything relating to dissipating transients, much less an alternate path or the spacing thereof with respect to other parts of the system. More specifically, There is not the slightest suggestion in

the cited references (alone or in combination) of any one of the following limitations in dependent claims:

- (a) providing the spacing of .01 inch as explicitly claimed in claims 65, 69, 79 and 83.
- (b) providing dimension of the space intermediate
 - (1) said first edge of said trace and said first edge of said first end cap and
 - (2) said second edge of said trace and said first edge of said second end capare both substantially equal to X. as explicitly claimed in claim 63, 67, 77 and 81.
- (c) wherein said surface mount component has a height dimension t and X is less than t as explicitly claimed in claims 64, 68, 77 and 82.
- (d) having first, second, and third surface mounted resistors as explicitly recited in claim 80
- (e) having wherein dimension of the space intermediate
 - (1) said first edge of said trace and said first edge of said first end cap of said first surface mounted resistor and
 - (2) said second edge of said trace and said first edge of said second end cap of said first surface mounted resistor,
 - (3) said first edge of said trace and said first edge of said first end cap of said second surface mounted resistor and
 - (4) said second edge of said trace and said first edge of said second end cap of said second surface mounted resistorare all substantially equal to X as explicitly claimed in claim 81

Mere statements that these claims are obvious with absolutely no basis in the cited art are insufficient.

11. It is recognized KSR v. Teleflex 550 U.S. 398, 1275 S. Ct 1727 (2007) allows patent examiners to look at art other than art specifically directed to the problem the patentee was trying to solve. Even in KSR, the examiner found art related to brakes. In contrast, the references relied on in the present case have nothing to with transient dissipation.

12. The references relied on do not constitute provide factually supported objective evidence establishing a *prima facie* case of obviousness. The only possible manner in which the combination of these references would show or suggest, to a person having ordinary skill in the art, the present invention is by the use of impermissible hindsight. Because the references have no relevance to transient dissipation, it is inescapable that that the present application has been merely used to apply hindsight as abundantly described in many references:

http://www.patentlyo.com/patent/2006/11/hindsight_bias.html

http://www.patenthawk.com/blog/2006/08/impermissible_hindsight_1.html

Thus, the references either alone or in combination do not have the structure explicitly claimed, do not have the purpose of the present invention (either intentionally or inherently), and do not achieve the result of the present invention either intentionally or inherently. Accordingly, there is no rational, good faith, plausible, or credible support for rejection based on the cited references.

The Examiner has, subsequent to the initial rejection based on the art now in issue, asserted:

“Applicant argues: ...

B. The reference does disclose lands (10) for only attachment of device terminals and does not teach the land that is intermediate the edges of the terminals of the component.

Examiner disagrees because the examiner is confused what does applicant means.? (sic) The land pattern (10) is formed on a PCB and **intermediate between** the terminals of the component, see figure 2.” (emphasis added)

The Examiner’s statement paraphrases and misquotes the express statement of the examiner’s argument and the applicant’s explicit response on pages 4-5 of the response filed by applicant on 07/29/09.

That statement first quoted the examiners rejection followed by the rebuttal argument

"The rejection is:

4. Claims 62-70, 76-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laschinski (U.S. Patent 6,467,163) in view of Tanabe et al. (U.S. Patent 4,883,920).

As to claims 62, 76, Laschinski discloses a universal component mounting structure for surface mountable electronic devices as shown in figures 1-2 comprising:

a printed circuit board (2, column 3, lines 60-61) having a SMT component (16) mounted on, the component (30; 40) having first and second terminals (column 5, lines 23-24), and each terminals having a first edge;

a conductive trace (10) formed on the PCB (2) having first and second opposed edges extending intermediate said first and second terminals (see figure 2), the edges of the trace (10) being defined a plane, see figure 2 and intersecting the first edge of the first and second terminals, the edge of the trace (10) disposed in parallel spaced relative to the edge of the first and second terminals respectively.

Laschinski does not specifically disclose the SMT component (16) having end caps. Tanabe et al. teaches a SMT component (2) having end caps (4) mounted on a substrate (1). It would have been obvious to one having an ordinary skill in the art at the time the invention was made to have the SMT component having end caps as taught by Tanabe et al. employed the SMT component of Laschinski in order to easy install components mounted on the PCB.

As to claims 66, 80, Laschinski discloses a universal component mounting structure for surface mountable electronic devices as shown in figures 1-2 comprising: a printed circuit board (2, column 3, lines 60-61) having a first SMT component (16) mounted on, the component (30; 40) having first and second terminals (column 5, lines 23-24), and each terminals having a first edge; and a second SMT component (14) having end caps (see figure 2), and a conductive trace (10) formed on the PCB (2) having first and second opposed edges extending intermediate said first and second terminals (see figure 2), the edges of the trace (10) being defined a plane, see figure 2 and intersecting the first edge of the first and second terminals, the edge of the trace (10) disposed in parallel spaced relative to the edge of the first and second terminals respectively.

Laschinski does not specifically disclose the SMT component (16) having end caps. Tanabe et al. teaches a SMT component (2) having end caps (4) mounted on a substrate (1). It would have been obvious to one having an ordinary skill in the art at the time the invention was made to have the SMT component having end caps as taught by Tanabe et al. employed the SMT component of Laschinski in order to easy install components mounted on the PCB." (Emphasis added)

The bold font words above are materially incorrect with respect to the word "intermediate". The structure provides a printed circuit board that include planar

conductive traces positioned for contact with the planar faces of the terminals of the surface mounted component. The lower face of the surface mounted component (that includes the lower face of the respective terminals) are thus in a different plane than the plane defined by the conductive traces. The respective planes are not even in face to face abutting relationship. They are spaced apart by the thickness of the solder intermediate the terminals and the plane of the conductive traces. There is no plane defined by the edges of end caps as specified in the claims that extends through the land 10.”

Thus, the current assertion by the examiner paraphrases and misquotes the explicit record in this application.

EXAMINER’S RESPONSE TO ARGUMENTS – DIMENSIONS X AND T

The applicant’s statement:

C) “Laschinski in addition to not describing surface mount components that include end caps, clearly does not describe or even mention the dimensions X and t dimensions as defined in the present specification and claims of the present application much less identify the importance of these dimensions in any embodiment in the reference.”

The Examiner asserts:

“Examiner disagrees because as modified by Tanabe, Tanabe et al. teaches a SMT component (2) having end caps (4) mounted on a substrate (1). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to have the SMT component having end caps as taught by Tanabe et al. employed the SMT component of Laschinski in order to easy install components mounted on the PCB, and it would have been obvious to one having ordinary skill in the art at the time the invention was made to have X dimension of 0.01 in equal to either the second edge of the trace and the first edge of the second cap in order to minimize size of the PCB, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level Of ordinary skill in the art. In re Rose 105 USPQ 237 (CCPA 1955).”

In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) stands for the principal that

claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" were unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.

In extremely distinct contrast the dimensions in the present invention are of critical importance. For example, changing a dimension less than .01 of an inch may result in an electric arc destroying an electric component as opposed to being harmlessly dissipated. The specification fully discloses this criticality on pages 8, 9 and 10 of the application. Similarly, explicit claims are presented herein. Nothing in the specification validates the examiner's argument that a dimension should be 0.01 inch in order to change the size of the component. The specification does explicitly describe on page 8, line 8 providing a different path for the transient arc. The dimensions X and t are critical and material. The importance of the critical spacing of the present invention is apparent, for example, from claim 69 specifying that X is .01 inch.

In summary, the mandates of the MPEP and the Federal Circuit require that the preamble of the independent claims herein must be deemed to be claim limitations and therefore the claims on appeal clearly are allowable over the cited art. Accordingly, it is requested that the Board reverse the Examiner.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. S. Smith', with a stylized flourish at the end.

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RSS/AE

(VII) CLAIMS APPENDIX

1. (withdrawn) A circuit board assembly which comprises:

an electrically insulating layer;

a conductive printed wiring layer formed on the surface of said electrically insulating layer and including a plurality of conductive paths;

a conductive trace on said electrically insulating layer and means for dissipating a transient;

a surface mount resistor fixed in relation to said trace.

2. (withdrawn) The circuit board assembly as described in claim 1 wherein said surface mount resistor has opposed generally planar lips.

3. (withdrawn) The circuit board assembly as described in claim 1 wherein said surface mount resistor has a generally planar lips and said trace is also generally planar.

4. (withdrawn) The circuit board assembly as described in claim 1 wherein said surface mount resistor has a generally planar lower lip, said trace is also generally planar and said lower lip and said trace are generally parallel.

5. (withdrawn) The circuit board assembly as described in claim 2 wherein said generally planar lips of said surface mount resistor are closer to said trace than the thickness of said surface mount resistor.

6. (withdrawn) The circuit board assembly as described in claim 2 wherein said lips and said trace are parallel.

7. (withdrawn) The circuit board assembly as described in claim 4 wherein a single geometric plane extends through substantially all of said lips and all of said trace.

8. (withdrawn) A circuit board assembly as described in claim 7 wherein the lower surface of said lips and the lower surface of said trace are substantially coplanar.

9. (withdrawn) A circuit board assembly as described in claim 7 wherein the upper surface of said lower lip and the upper surface of said trace are substantially coplanar.

10. (withdrawn) A circuit board assembly as described in claim 7 wherein the lower surface of said lower lip and the lower surface of said trace are substantially coplanar and in addition the upper surface of said lip and the upper surface of said trace are substantially coplanar.

11. (withdrawn) A circuit board assembly as described in claim 10 wherein said surface mount resistor has a height of t and the spacing between said lip and said trace is less than t .

12. (withdrawn) A circuit board assembly as described in claim 11 wherein the spacing between said lip and said trace is no more than one half t .

Claims 13-26 (cancelled)

27. (withdrawn) A circuit board assembly which comprises:

an electrically insulating layer;

a conductive printed wiring layer formed on the surface of said electrically insulating layer and including a plurality of conductive paths;

a conductive trace on said electrically insulating layer and means for dissipating a transient;

a first surface mount resistor fixed in closely spaced relation to said trace;

a second surface mount resistor fixed in closely space relation to said trace.

28. (withdrawn) The circuit board assembly as described in claim 27 wherein each of said surface mount resistors has opposed generally planar lips.

29. (withdrawn) The circuit board assembly as described in claim 27 wherein each of said surface mount resistors has a generally planar lips and said trace is also generally planar.

30. (withdrawn) The circuit board assembly as described in claim 27 wherein each of said surface mount resistors has a generally planar lower lip, said trace is also generally planar and all of said lower lips and said trace are generally parallel.

31. (withdrawn) The circuit board assembly as described in claim 27 wherein said generally planar lips of said surface mount resistors are closer to said trace than the thickness of said surface mount resistors.

32. (withdrawn) The circuit board assembly as described in claim 28 wherein said lips and said trace are parallel.

33. (withdrawn) The circuit board assembly as described in claim 32 wherein a single geometric plane extends through substantially all of said lips and all of said trace.

34. (withdrawn) A circuit board assembly as described in claim 33 wherein the lower surface of said lips and the lower surface of said trace are substantially coplanar.

35. (withdrawn) A circuit board assembly as described in claim 33 wherein the upper surface of said lower lips and the upper surface of said trace are substantially coplanar.

36. (withdrawn) A circuit board assembly as described in claim 33 wherein the lower surface of said lower lips and the lower surface of said trace are substantially coplanar and in addition the upper surface of said lips and the upper surface of said trace are substantially coplanar.

37. (withdrawn) A circuit board assembly as described in claim 33 wherein said surface mount resistor has a height of t and the spacing between each of said lips and said trace is less than t .

38. (withdrawn) A circuit board assembly as described in claim 37 wherein the spacing between each of said lips and said trace is no more than one half t .

39. (withdrawn) A circuit board assembly as described in claim 27 wherein the distance between said first and second resistors is greater than the height of each resistor.

40. (withdrawn) A circuit board assembly as described in claim 28 wherein the distance between said first and second resistors is greater than the height of each resistor.

41. (withdrawn) A circuit board assembly as described in claim 29 wherein the distance between said first and second resistors is greater than the height of each resistor.

42. (withdrawn) A circuit board assembly as described in claim 30 wherein the distance between said first and second resistors is greater than the height of each resistor.

43. (withdrawn) A circuit board assembly as described in claim 31 wherein the distance between said first and second resistors is greater than the height of each resistor.

44. (withdrawn) A circuit board assembly as described in claim 32 wherein the distance between said first and second resistors is greater than the height of each resistor.

45. (withdrawn) A circuit board assembly as described in claim 33 wherein the distance between said first and second resistors is greater than the height of each resistor.

46. (withdrawn) A circuit board assembly as described in claim 34 wherein the distance between said first and second resistors is greater than the height of each resistor.

47. (withdrawn) A circuit board assembly as described in claim 35 wherein the distance between said first and second resistors is greater than the height of each resistor.

48. (withdrawn) A circuit board assembly as described in claim 36 wherein the distance between said first and second resistors is greater than the height of each resistor.

49. (withdrawn) A circuit board assembly as described in claim 38 wherein the distance between said first and second resistors is greater than the height of each resistor.

50. (withdrawn) A circuit board assembly as described in claim 27 wherein the distance between said first and second resistors is at least three times the height of each resistor.

51. (withdrawn) A circuit board assembly as described in claim 28 wherein the distance between said first and second resistors is at least three times the height of each resistor.

52. (withdrawn) A circuit board assembly as described in claim 29 wherein the distance between said first and second resistors is at least three times the height of each resistor.

53. (withdrawn) A circuit board assembly as described in claim 30 wherein the distance between said first and second resistors is at least three times the height of each resistor.

54. (withdrawn) A circuit board assembly as described in claim 32 one wherein the distance between said first and second resistors is at least three times the height of each resistor.

55. (withdrawn) A circuit board assembly as described in claim 32 wherein the distance between said first and second resistors is at least three times the height of each resistor.

56. (withdrawn) A circuit board assembly as described in claim 33 wherein the distance between said first and second resistors is at least three times the height of each resistor.

57. (withdrawn) A circuit board assembly as described in claim 34 wherein the distance between said first and second resistors is at least three times the height of each resistor.

58. (withdrawn) A circuit board assembly as described in claim 35 wherein the distance between said first and second resistors is at least three times the height of each resistor.

60. (withdrawn) A circuit board assembly as described in claim 37 wherein the distance between said first and second resistors is at least three times the height of each resistor.

60. (withdrawn) A circuit board assembly as described in claim 38 wherein the distance between said first and second resistors is at least three times the height of each resistor.

61. (withdrawn) A circuit board assembly as described in claim 39 wherein the distance between said first and second resistors is at least three times the height of each resistor.

62. (Rejected) A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board;

a surface mount component mounted on said printed circuit board, said surface component having first and second end caps, said first and second end caps each having a first edge;

a conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps, said first and second opposed edges being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap and intersecting said first edge of said second end cap, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end cap and said second edge of said trace being disposed in parallel spaced relation to said first edge of said second end cap.

63. (Rejected) The circuit protection system as described in claim 62 wherein the dimension of the space intermediate

(1) said first edge of said trace and said first edge of said first end cap and

(2) said second edge of said trace and said first edge of said second end cap
are both substantially equal to X.

64. (Rejected) The circuit protection system as described in claim 63 wherein said surface mount component has a height dimension t and X is less than t .

65. (Rejected) The circuit protection system as described in claim 63 wherein X is approximately .01 inch.

66. (Rejected) A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board;

a first surface mount component mounted on said printed circuit board, said surface component having first and second end caps, said first and second end caps each having a first edge;

a second surface mount component mounted on said printed circuit board, said surface component having first and second end caps, said first and second end caps each having a first edge;

a conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps of said first surface mounted component, said first and second opposed edges being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap of said first surface mounted component and intersecting said first edge of said second end cap of said first surface mounted component, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end cap of said first surface mounted component and said second edge of said trace is disposed in parallel spaced relation to said first edge of said second end cap of said first surface mounted component; and

said conductive trace on said printed circuit board having said first and second opposed edges extending intermediate said first and second end caps of said second surface mounted component, said plane intersecting said first edge of said first end cap of said second surface mounted component and intersecting said first edge of said second end cap of said second surface mounted component, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end cap of said second surface mounted component and said second edge of said trace being disposed in parallel spaced relation to said first edge of said second end cap of said second surface mounted component.

67. (Rejected) The circuit protection system as described in claim 66 wherein dimension of the space intermediate (1) said first edge of said trace and said first edge of said first end cap of said first surface mounted component and (2) said second edge of said trace and said first edge of said second end cap of said first surface mounted component, (3) said first edge of said trace and said first edge of said first end cap of said second surface mounted component and (4) said second edge of said trace and said first edge of said second end cap of said second surface mounted component are all substantially equal to X.

68. (Rejected) The circuit protection system as described in claim 65 wherein said surface mount component has a height dimension t and X is less than t.

69. (Rejected) The circuit protection system as described in claim 67 wherein X is approximately .01 inch.

70. (Rejected) The circuit protection system as described in claim 67 wherein the minimum spacing between the respective end caps of said first and second surface mounted components is at least three times the dimension X.

71. (Allowed) A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board;

a first surface mount component mounted on said printed circuit board, said surface component having first and second end caps, said first and second end caps each having a first edge;

a second surface mount component mounted on said printed circuit board, said surface component having first and second end caps, said first and second end caps each having a first edge;

a first conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps of said first surface mounted component, said first and second opposed edges being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap of said first surface mounted component and intersecting said first edge of said second end cap of said first surface mounted component, said first edge of said first trace being disposed in parallel spaced relation to said first edge of said first end cap of said first surface mounted component and said second edge of said first trace being disposed in parallel spaced relation to said first edge of said second end cap of said first surface mounted component;

said first conductive trace on said printed circuit board having said first and second opposed edges extending intermediate said first and second end caps of said second surface mounted component, said plane intersecting said first edge of said first end cap of said second surface mounted component and intersecting said first edge of said second end cap of said second surface mounted component, said first edge of said first trace being disposed in parallel spaced relation to said first edge of said first end cap of said second surface mounted component and said second edge of said first trace being disposed in parallel spaced relation to said first edge of said second end cap of said second surface mounted component;

a third surface mount component mounted on said printed circuit board, said third surface component having first and second end caps, said first and second end caps each having a first edge;

a second conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps of said third surface mount component, said first and second opposed edges of said second conductive trace being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap of said third surface mount component and intersecting said first edge of said second end cap of said third surface mount component, said first edge of said second trace being disposed in parallel spaced relation to said first edge of said first end cap of said third surface mount component and said second edge of said second trace being disposed in parallel spaced relation to said first edge of said second end cap of said third surface mount component.

72. (Allowed) The circuit protection system as described in claim 71 wherein dimension of the space intermediate (1) said first edge of said first trace and said first edge of said first end cap of said first surface mounted component, (2) said second edge of said first trace and said first edge of said second end cap of said first surface mounted component, (3) said first edge of said first trace and said first edge of said first end cap of said second surface mounted component and (4) said second edge of said first trace and said first edge of said second end cap of said second surface mounted component are all equal to X, (5) said first edge of said second trace and said first edge of said first end cap of said third surface mounted component, and (6) said second edge of said second trace and said first edge of said second end cap of said third surface mounted component are all substantially equal to X.

73. (Allowed) The circuit protection system as described in claim 72 wherein each surface mount component has a height dimension t and X is less than t .

74. (Allowed) The circuit protection system as described in claim 72 wherein X is approximately .01 inch.

75. (Allowed) The circuit protection system as described in claim 71 wherein the minimum spacing between the respective end caps of said first and second surface mounted components is at least three times the dimension X.

76. (Rejected) A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board;

a surface mount resistor mounted on said printed circuit board, said surface resistor having first and second end caps, said first and second end caps each having a first edge;

a conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps, said first and second opposed edges being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap and intersecting said first edge of said second end cap, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end cap and said second edge of said trace being disposed in parallel spaced relation to said first edge of said second end cap.

77. (Rejected) The circuit protection system as described in claim 76 wherein dimension of the space intermediate (1) said first edge of said trace and said first edge of said first end cap and (2) said second edge of said trace and said first edge of said second end cap are both substantially equal to X.

78. (Rejected) The circuit protection system as described in claim 77 wherein said surface mount resistor has a height dimension t and X is less than t.

79. (Rejected) The circuit protection system as described in claim 78 wherein X is approximately .01 inch.

80. (Rejected) A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board;

a first surface mount resistor mounted on said printed circuit board, said surface resistor having first and second end caps, said first and second end caps each having a first edge;

a second surface mount resistor mounted on said printed circuit board, said surface resistor having first and second end caps, said first and second end caps each having a first edge;

a conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps of said first surface mounted resistor, said first and second opposed edges being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap of said first surface mounted resistor and intersecting said first edge of said second end cap of said first surface mounted resistor, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end cap of said first surface mounted resistor and said second edge of said trace is disposed in parallel spaced relation to said first edge of said second end cap of said first surface mounted resistor; and

said conductive trace on said printed circuit board having said first and second opposed edges extending intermediate said first and second end caps of said second surface mounted resistor, said plane intersecting said first edge of said first end cap

of said second surface mounted resistor and intersecting said first edge of said second end cap of said second surface mounted resistor, said first edge of said trace being disposed in parallel spaced relation to said first edge of said first end cap of said second surface mounted resistor and said second edge of said trace being disposed in parallel spaced relation to said first edge of said second end cap of said second surface mounted resistor.

81. (Rejected) The circuit protection system as described in claim 80 wherein dimension of the space intermediate (1) said first edge of said trace and said first edge of said first end cap of said first surface mounted resistor and (2) said second edge of said trace and said first edge of said second end cap of said first surface mounted resistor, (3) said first edge of said trace and said first edge of said first end cap of said second surface mounted resistor and (4) said second edge of said trace and said first edge of said second end cap of said second surface mounted resistor are all substantially equal to X.

82. (Rejected) The circuit protection system as described in claim 81 wherein said surface mount resistor has a height dimension t and X is less than t.

83. (Rejected) The circuit protection system as described in claim 82 wherein X is approximately .01 inch.

84. (Rejected) The circuit protection system as described in claim 81 wherein the minimum spacing between the respective end caps of said first and second surface mounted resistors is at least three times the dimension X.

85. (Allowed) A circuit protection system for dissipating transients without the use of transorbs or metal oxide varistors which comprises:

a printed circuit board;

a first surface mount resistor mounted on said printed circuit board, said surface resistor having first and second end caps, said first and second end caps each having a first edge;

a second surface mount resistor mounted on said printed circuit board, said surface resistor having first and second end caps, said first and second end caps each having a first edge;

a first conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps of said first surface mounted resistor, said first and second opposed edges being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap of said first surface mounted resistor and intersecting said first edge of said second end cap of said first surface mounted resistor, said first edge of said first trace being disposed in parallel spaced relation to said first edge of said first end cap of said first surface mounted resistor and said second edge of said first trace being disposed in parallel spaced relation to said first edge of said second end cap of said first surface mounted resistor;

said first conductive trace on said printed circuit board having said first and second opposed edges extending intermediate said first and second end caps of said second surface mounted resistor, said plane intersecting said first edge of said first end cap of said second surface mounted resistor and intersecting said first edge of said second end cap of said second surface mounted resistor, said first edge of said first trace being disposed in parallel spaced relation to said first edge of said first end cap of said second surface mounted resistor and said second edge of said first trace being disposed in parallel spaced relation to said first edge of said second end cap of said second surface mounted resistor;

a third surface mount resistor mounted on said printed circuit board, said third surface resistor having first and second end caps, said first and second end caps each having a first edge;

a second conductive trace on said printed circuit board having first and second opposed edges extending intermediate said first and second end caps of said third surface mount resistor, said first and second opposed edges of said second conductive trace being coplanar and thereby defining a plane, said plane intersecting said first edge of said first end cap of said third surface mount resistor and intersecting said first edge of said second end cap of said third surface mount resistor, said first edge of said second trace being disposed in parallel spaced relation to said first edge of said first end cap of said third surface mount resistor and said second edge of said second trace being disposed in parallel spaced relation to said first edge of said second end cap of said third surface mount resistor.

86. (Allowed) The circuit protection system as described in claim 85 wherein dimension of the space intermediate (1) said first edge of said first trace and said first edge of said first end cap of said first surface mounted resistor, (2) said second edge of said first trace and said first edge of said second end cap of said first surface mounted resistor, (3) said first edge of said first trace and said first edge of said first end cap of said second surface mounted resistor and (4) said second edge of said first trace and said first edge of said second end cap of said second surface mounted resistor are all equal to X, (5) said first edge of said second trace and said first edge of said first end cap of said third surface mounted resistor, and (6) said second edge of said second trace and said first edge of said second end cap of said third surface mounted resistor are all substantially equal to X.

87. (Allowed) The circuit protection system as described in claim 86 wherein each surface mount resistor has a height dimension t and X is less than t .

88. (Allowed) The circuit protection system as described in claim 86 wherein X is approximately .01 inch.

89. (Allowed) The circuit protection system as described in claim 71 wherein the minimum spacing between the respective end caps of said first and second surface mounted resistors is at least three times the dimension X.

(IX) *Evidence appendix.*

No evidence is being submitted pursuant to 37 CFR 1.130, 1.131, or 1.132 or of any other evidence entered by the examiner and relied upon by appellant in the appeal. Thus a statement setting forth where in the record that evidence was entered in the record by the examiner is not applicable.

X RELATED PROCEEDING APPENDIX

There are no related Appeals or Interferences.

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§ 8.06

Selected Problems in Claim Drafting

- [1] Claim Language and Format Generally
 - [a] Single Sentence—Prolivity—Reference to Specification—Antecedent Basis
 - [b] Preamble, Transition, and Body
 - [i] Preamble
 - [ii] Transition
 - [A] Comprising—Having—Including
 - [B] Consisting Of
 - [C] Consisting Essentially Of
 - [iii] Body: Elements and Limitations
 - [c] Improvements—Jepson Claims
 - [d] The Preamble as a Limitation on the Claim—“Whereby” and “Thereby” Clauses
 - [i] Decisions Reviewing Patent and Trademark Office Actions
 - [A] Court of Customs and Patent Appeals Decisions
 - [B] Federal Circuit Decisions
 - [ii] Court of Appeals and District Court Decisions Prior to 1983
 - [iii] Federal Circuit Decisions In Infringement Suits
 - [A] Preamble Limiting
 - [B] Preamble Not Limiting
- [2] Alternative Limitations—Markush Claims
 - [a] Alternative Limitations
 - [b] The *Markush* Decision—Closed Group (“Consisting Of”)
 - [c] Proper Markush Grouping—Community of Characteristics
 - [d] Combining Markush and Generic Claims
 - [e] Markush Claims of Varying Scope
 - [f] Novelty and Nonobviousness of Markush Claims—Disclosure Support
 - [g] Relation of Markush Practice to Restriction
- [3] Negative Limitations
- [4] Multiplicity and Duplication—Separate Claims as “Separate Patents”
- [5] Dependent Claims
 - [a] Historical Development
 - [b] Infringement
 - [c] Derivative Patentability
 - [d] Presumption of Validity—Separate Argument

§ 8.01 Introduction

An applicant for a patent must include in the specification accompanying the application for the patent “one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.”¹

§ 8.01

¹ 35 U.S.C. § 112 (first sentence, second paragraph).

and palladium that had a very similar composition, except that it had a much higher concentration of cyanide than was required by the applicant's purpose. The Patent Office rejected the claim on grounds of obviousness, reasoning that the preamble statement "for chemically depositing gold" was a mere statement of intended use that could be disregarded and that the omission of elements from the Campana bath did not render the applicant's bath patentable. The court reversed. The difference in intended use between Campana and the applicant can be considered in determining whether the cyanide limitations in the applicant's claim are obvious in the light of Campana.

[B] Federal Circuit Decisions. In reviewing PTO rejections, Federal Circuit decisions address preambles as limitations.¹⁹¹

¹⁹¹ Griffin v. Bertina, 285 F.3d 1029, 1033, 62 USPQ2d 1431 (Fed. Cir. 2002) (language in a preamble was a limitation on a claim because "its appearance in the count gives 'life and meaning' to the manipulative steps. See *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) (stating that a preamble is limiting when it is 'necessary to give life, meaning and vitality to the claims or counts')."); an interference count concerned a method for diagnosing thrombosis; a junior party's evidence did not establish an actual reduction to practice prior to a senior party's filing date; the junior party identified a point mutation in a sequence of Factor V in a blood sample but did not show recognition of a correlation between the mutation and an increased risk of thrombosis, as required by count's preamble and "wherein" clauses; a preamble in the interference count recited that a method be "for diagnosing an increased risk for thrombosis or a genetic defect causing thrombosis."; the count further required obtaining from a "test subject" specific nucleic acid and assaying for presence of a "point mutation."; two "wherein" clauses in the count recited that the "point mutation correlate[]" to a specific human Factor increase and that the presence of the point mutation "indicate[] an increased risk for thrombosis."; "Consideration of the preamble gives meaning and purpose to the manipulative steps in this case. The first step recites that the test nucleic acid should be obtained from a 'test subject.' In the absence of the preamble's stated objective to diagnose thrombosis, the term 'test subject' is empty language. What is one testing for, and who is a suitable subject? . . . Similarly, without the preamble, 'assaying for the presence of a point mutation' has no purpose. . . . Obtaining nucleic acid and assaying for a point mutation alone are merely academic exercises. The preamble is thus a necessary limitation."; the "wherein" clauses also limit the claim); Rapoport v. Dement, 254 F.3d 1053, 59 USPQ2d 1215 (Fed. Cir. 2001), discussed below; Rowe v. Dror, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997), discussed § 3.02[1] ("Where a patentee uses the claim preamble to recite structural limitations of his claimed invention, the PTO and courts give effect to that usage. . . . Conversely, where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation."); "The determination of whether preamble recitations are structural limitations or mere statements of purpose or use 'can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.' . . . The inquiry involves examination of the entire patent record to determine what invention the patentee intended to define and protect. See *Bell Communications*, 55 F.3d 615, 621 (looking to patent specification to determine whether claimed invention includes preamble recitations); *In re Paulsen*, 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (examining 'patent as a whole'); *Vaupel Textilmaschinen KG v. Meccanica Euro Italia SPA*, 944 F.2d 870, 880, 20 USPQ2d 1045, 1053 (Fed. Cir. 1991) (looking to claims, specification, and drawings); *Gerber Garment Tech., Inc. v. Lectra Sys., Inc.*, 916 F.2d 683, 689, 16 USPQ2d 1436, 1441 (Fed. Cir. 1990) (noting that preamble recitations provided antecedent basis for terms used in body of claim); *Corning Glass Works*, 868 F.2d at 1257 (considering the specification's statement of the problem with the prior art); *Kropa*, 187 F.2d 150, 152 (noting that preamble sets out distinct relationship among remaining claim elements."); *In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1672-74 (Fed. Cir. 1994) (the term "computer" in the patent claim's preamble constitutes a limitation on the claims' scope; the patent under reexamination claimed a "clam shell" configuration for

In *In re Stencel* (1987),¹⁹² the applicant's claim concerned a "driver" to set a joint consisting of a threaded collar, a threaded pin and a sheet, the driver "comprising" *inter alia* a plurality of flat interior sides. The preamble portion of the claim stated the purpose of the driver (to set the joint by deforming certain lobes on the collar).¹⁹³ The Federal Circuit held that the preamble constitutes a limitation defining the driver and could be relied on by the applicant to distinguish the teachings of prior art references. Thus, the PTO erred in reasoning that the claim was to a driver per se as defined by the limitations following the preamble ("... the driver comprising ..."). The preamble language was not merely functional. The court noted that "[a]s a matter of claim draftsmanship, [the applicant] is not barred from describing the driver in terms of the structure imposed upon it by the collar having plastically deformable lobes."¹⁹⁴ In view of the proper construction of the claim, the PTO erred in finding the claimed subject matter obvious in view of two references, one showing a driver for shearing the lobes of a bolthead upon application of predetermined torque, and one showing a

a portable computer; the claimed invention's salient feature is that "the computer's display housing is connected to the computer at its midsection by a hinge assembly that enables the display to swing from a closed, latched position for portability and protection to an open, erect position for viewing and operation."; the claim recited: "1. A portable computer constructed to be contained within an outer case for transport and to be erectable to a viewing and operating configuration for use, said computer comprising ..."; "[a]lthough no 'litmus test' exists as to what effect should be accorded to words contained in a preamble, review of a patent in its entirety should be made to determine whether the inventors intended such language to represent an additional structural limitation or mere introductory language. . . . [R]eview of the . . . patent as a whole reveals that the term 'computer' is one that 'breathes life and meaning into the claims and, hence, is a necessary limitation to them.' . . . Thus, to anticipate [the claim], the [prior art] reference must disclose a type of 'computer.'"; *In re Stencel*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987), discussed *infra*; *DeGeorge v. Bernier*, 768 F.2d 1318, 1322 n.3, 226 USPQ 758, 761 n.3 (Fed. Cir. 1985).

¹⁹² *In re Stencel*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987).

¹⁹³ Claim 1 of the application provided:

"1. A driver for setting a joint of a threaded collar, a threaded pin, and at least one sheet, the collar having plastically deformable lobes on its longitudinal exterior that upon the existence of a predetermined clamp-up load, between the collar and the sheets plastically deform in radial compression and displace material of the collar into void volumes between the collar and the pin to lock the two together and terminate the action of the driver on the collar, the driver comprising: (a) a body having a rotational axis; (b) a socket in the body having a plurality of flats that when cut by radial planes normal to the rotational axis fall on the sides of a regular polygon, the flats being parallel to the rotational axis; (c) the minimum distance between each flat and the rotational axis corresponding substantially to the radius of the collar at the location of the lobes after their plastic deformation; and (d) means on the body to receive a wrenching torque applied to the driver so that the flats apply the torque to the lobes of the collar."

828 F.2d at 753, 4 USPQ2d at 1072.

¹⁹⁴ 828 F.2d at 754, 4 USPQ2d at 1073.

See also *Smith Corona Corp. v. Pelikan, Inc.*, 784 F. Supp. 452, 461, 463 (M.D. Tenn. 1992), *aff'd*, 1 F.3d 1252 (Fed. Cir. 1993) (unpublished) (*Stencel* means that "[p]atentability can be predicated upon how a claimed item mates with another item without claiming the combination of the two items"; "under *Stencel*, an applicant may define and limit an invention in terms of that invention's intended environment without claiming the environment as part of a combination with the invention.").

driver socket with flat interior sides. The Board had agreed that the failure or deforming mechanism of the former was fundamentally different from that set forth in the preamble of the claim in question.

In *Rapoport v. Dement* (2001),¹⁹⁵ an interference concerned the “treatment of sleep apneas” comprising the administration of an azapirone compound, including the specific azapirone compound buspirone. The interference count recited:

“A method for treatment of sleep apneas comprising administration of a therapeutically effective amount of a Formula I azapirone compound or a pharmaceutically effective acid addition salt thereof to a patient in need of such treatment. . . .”¹⁹⁶

The court interpreted the count (and the claims corresponding to the count) as covering only the administration of the azapirone compounds, including buspirone, to retreat the apnea condition, not the anxiety effects of apnea. The reference to “treatment of sleep apneas” appeared in the count’s preamble, but it must be construed as a limitation. Without so construing it, the phrase “such treatment” in the count’s body “would not have a proper antecedent basis.”¹⁹⁷

[ii] Court of Appeals and District Court Decisions Prior to 1983. Regional circuit and district court decisions prior to 1983 addressed the effect to be given a preamble in determining infringement and validity.

The leading case was *Marston v. J.C. Penney Co.* (1965).¹⁹⁸ Marston’s basic concept was to introduce air into tubing, seal the tubing at intervals to form cells, and then arrange the tubing in such a fashion as to form a waterproof flexible structure useful for cushions, mattresses, life preservers and the like. His claim began “A buoyant, flexible filler pad comprising a plurality of strip portions arranged in laterally disposed relation. . . .” (Emphasis added.) The defendant’s article was a chaise lounge with a webbing surface that reflected Marston’s concept of arranged and celled tubing. The defendant contended that the article did not infringe because it was not a “filler pad” and was not “buoyant” to any useful extent.

The court held that the preamble did not constitute a limitation and that the article did infringe.

“If the preamble merely states a purpose or intended use and the remainder of the claim completely defines the invention independent of the preamble, it is not a limitation on the claims. On the other hand, if the claim cannot be read independently of the preamble and the preamble must be read to give meaning to the claim or is essential to point out the invention, it constitutes a limitation upon the claim. See *Kropa v. Robie* . . . In the present case the preamble does not

¹⁹⁵ *Rapoport v. Dement*, 254 F.3d 1053, 59 USPQ2d 1215 (Fed. Cir. 2001).

¹⁹⁶ 254 F.3d at 1056, 59 USPQ2d at 1217 (emphasis added).

¹⁹⁷ 254 F.3d at 1059, 59 USPQ2d at 1219.

¹⁹⁸ *Marston v. J.C. Penney Co.*, 353 F.2d 976, 148 USPQ 25 (4th Cir. 1965), cert. denied, 385 U.S. 974 (1966).

APPENDIX-WALKER

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In *Ex parte King*,¹⁶ the invention related to decoration for a cake. The decoration was use in lieu of the candles usually placed on a birthday cake. The decoration was made by molding a body of candle into the shape of a letter of the alphabet or a number. This body portion had wicks extending transversely thereof and so arranged that when lighted they illuminated the outline of the molded body. The real invention was the same whether the molded bodies are in the form of numerals or in the form of letters. After stating a suggested claim was patentable over the prior art, the Board added: "This claim, however, contains the alternative expression 'letter or number.' If submitted in a proper amendment with the words 'or number' omitted we recommend the admission and allowance of this claim."

The weight of authority is against the use of phrases such as "or the like," "or its equivalent" in describing the elements of a claim but there is also the view expressed in *Ex parte Faulk*,¹⁷ wherein the Board expressly suggested that the term "or equivalent" be employed saying: "This claim, however, includes the vague expression 'temperature modifying metal' which . . . would read on any metal. It is thus much broader than iron or nickel, which are the only examples named for such metal. . . . We would allow this claim if amended by substituting for the portion following 'a plate of' the following wording: iron, nickel or equivalent metal interposed and rigidly held between inner and outer layers of aluminum of the bottom wall thereof."

Claim 1 of the patent in the case of *Re Gaubert*,¹⁸ illustrates the principle that there is no objection to alternative expressions in claim preambles.

1. A rotor member made entirely or in part of one or several assembled pieces of iron, steel or any other magnetic material and to be used as a part of electric generators and motors and

16. *Ex parte King*, 2 USPQ 35 (1929, Bd App).

18. *Re Gaubert*, 524 F2d 1222, 187 USPQ 664 (1975, CCPA).

17. *Ex parte Faulk*, 1929 CD 94.

which comprises one or more horseshoe type or U shape type magnets or electromagnets with their magnetic poles placed side by side and parallel with the shaft of the rotor but separated from each other by one or more annular coils of wire on the cylindric root circumference of the rotor.

The court decided that the alternate expressions objected to by the board did not render the scope of the invention undeterminable:

Claim 1 starts with "made entirely or in part of" which is to say "made at least partially of"; the phrase "one or several pieces" means the same as "at least one piece"; in the phrase "iron, steel or any other magnetic material" the words "iron" and "steel" are just examples of common magnetic materials. Similarly, the other alternate expressions in claims 1 and 2, although somewhat ungainly, nevertheless accurately determine the boundries of protection involved. Perforce, the rejection of claims 1 and 2 under 35 USC § 112, second paragraph is reversed.¹⁹

In claiming certain inventions, it may be necessary or desirable to include in the claim negative limitations in order to fully and clearly define the invention and distinguish it over the prior art. In *Ex parte Deitsch*,²⁰ the use of the expression "cross section other than circular" and the term "non circular" to define the shank of a collar button, were held to be proper.

In *Ex parte Ljungstrom*,¹ patent examiner objected to the use of the word "outlet" in connection with a centrifugal machine on the ground that the word was an intangible element and should not be positively included. The examiner was overruled by Commissioner Allen who said that: "While the use of this term might be objectionable in some instances, it is thought that no objection should have been made to it in this case, as the 'outlet' is not formed in any particular element, so that it could not be clearly defined in the manner suggested by the Examiner."

19. 187 USPQ at 668.

1. *Ex parte Ljungstrom*, 1905 CD

20. *Ex parte Deitsch*, 1925 CD 88, 541, 542.

89.